

PROCEEDINGS OF THE  
ROYAL ENTOMOLOGICAL SOCIETY  
OF LONDON

SERIES C. JOURNAL OF MEETINGS

---

VOLUME 26.

No. 2, 1961

---

ORDINARY MEETING

WEDNESDAY, 5th APRIL, 1961, at 5.30 p.m. (Tea 5 p.m.)

AGENDA

1. Confirmation of the Proceedings of the Ordinary Meeting held on 1st March, 1961.
2. Recommendations of candidates for Fellowship. First reading.
3. Recommendations of candidates for Fellowship. Second reading.
4. Announcement of election of new Fellows.
5. Additions to the Library [see p. 8].
6. Admission of Fellows.
7. Exhibits.
8. Communications.

1. Mr. J. D. Bletchly

The effect of a sub-lethal dosage of gamma radiation on a population of *Lyctus brunneus* Stephens (Coleoptera : Lyctidae).

[ABSTRACT]

Difficulties in eradicating deep seated wood-boring insect infestations in large dimensioned timbers, in particular those caused by the death-watch beetle, have led to a search for more effective methods of treatment, which have included gamma radiation. The dosages required to induce sterility or prevent completion of development are, in general, greater than 10,000 roentgens, and much higher ones are needed to produce a rapid mortality. Such dosages necessitate heavy lead screening which involves engineering problems of a magnitude likely to limit the use of this method of treatment. Studies are in progress in co-operation with the A.E.R.E. on the effect of a lower dosage (4000 roentgens) on a population of *Lyctus brunneus*—a wood-boring insect easily reared for experimental purposes under laboratory conditions. It has been found that irradiating larvae at this dosage caused a sharp reduction in emergence of the *P*<sub>1</sub> generation, but the number of beetles produced per female parent beetle increased during the *F*<sub>1</sub> and *F*<sub>2</sub> generations, thus indicating that irradiation at a sub-lethal dosage is not likely to be a practical method of employing gamma radiation.

## 2. Mr. E. C. Harris

The value of fumigation for the control of wood-boring insects.

## [ABSTRACT]

Fumigation for the control of wood-boring insects is mainly employed for portable articles suitable for treatment in special chambers but is occasionally used for woodwork *in situ* when technical difficulties can be overcome.

In conjunction with the Pest Infestation Laboratory (A.R.C.) the resistance to methyl bromide of developmental stages of some common wood-borers, viz. *Anobium punctatum* Deg., *Xestobium rufovillosum* Deg., *Hylotrupes bajulus* L. and *Sirex* spp. are being studied, the dosages being expressed as concentration/time products. Eggs have proved the least resistant and fully grown larvae the most resistant stages. Low dosages, not causing mortality of adults, can prevent or reduce egg-laying.

At present, laboratory data are of rather limited application in the practice of fumigation since no accurate method of measuring penetration of the fumigant into timber is available. The dose received by larvae within wood-work will be affected by the species of timber, its dimensions, and the distribution and extent of larval boring. Field experience by gas sampling outside the wood and post-treatment observations on insect activity offers promise. Such data have been obtained in respect of *Xestobium rufovillosum* and the predaceous Clerid, *Corynetes coeruleus* Deg. in timbers of H.M.S. Victory.

## NOTICES

The next meeting will be held on *Wednesday, 3rd May, 1961* :

- (1) **Dr. H. E. Hinton**.—The respiratory systems of insect eggs.
- (2) **Mr. L. P. Lefkovitch**.—Food quantity and density effects in pre-adult *Cryptolestes turcicus* (Grouv.) (Coleoptera : Cucujidae).

## PROCEEDINGS OF THE ORDINARY MEETING HELD ON 1ST MARCH, 1961

Professor G. C. VARLEY, President, in the Chair.

Present, 79 Fellows and 19 Visitors.

The minutes of the Ordinary Meeting held on 18th January were confirmed and signed by the President.

The President announced that he had nominated Mr. R. B. Benson, Dr. N. E. Hickin and Mr. M. J. Way as his Vice-Presidents for the coming year.

The names of the following candidates for election were read for the first time : Mr. Samuel Bankole Bernard ; Mr. John Frederick Burton ; Mr. Fernando Joseph Antony Rajanayagam Gnanarajah, B.Sc. ; Mr. Mohamed Abdel Meguid Hafiz ; Mr. Sayid Muazzam Husain ; Mr. John Anthony Richardson ; Dr. Brijesh Kumar Srivastava, M.Sc., D.Phil. ; and Mr. Fred Waterhouse.

For the second time (taken as read) : Mr. Edward Frederick Ivor Baker, B.Sc. ; Mr. John Balfry Davies ; Mr. Michael Frith ; Mr. Anthony Mervyn Gower ; Mrs. Jeelani Haq ; Mr. John Farlow Lamerton ; Mr. David Archibald Muir, B.Sc. ; Mr. William John Norton ; Mr. William L. Peters ; Mr. Brian Holt Riley ; Mr. David Henry Udall ; and Mr. Mohammad Zaka-ur-Rab.

The Secretary read the names of the following newly elected Fellows of the Society : Miss Sheila Joan Brydon, South Lodge, Hepscott, Morpeth, Northumberland ; Mr. David Ellis Evans, Imperial College Field Station, Silwood Park, Sunninghill, Berks. ; Mr. Keith Geoffrey Goodyear, 26, Twynham Avenue, Christchurch, Hants. ; Mr. Ayodhya Prasad Gupta, c/o Department of Zoology, University of British Columbia, Vancouver, 8, British Columbia, Canada ; Mr. John Peter Leader, Department of Zoology, University of Bristol, Bristol ; Mr. David Cecil Richard Lincoln, Department of Zoology, University of Bristol, Bristol ; Mr. David James de Bar Lyon, B.Sc., 22, Washington Road,



Worcester Park, Surrey ; Mr. Herman Auguste Mould, B.A., Ghana Cocoa Marketing Board, P.O. Box 933, Accra, Ghana ; Mr. Adrian Charles Pont, 16, Woodstock Road, Redland, Bristol, 6 ; and Mr. Nigel Boyd Potter, The Mill House, North Warnborough, Odiham, Hants.

Thanks were voted to donors of gifts to the Library since the last meeting.

Mr. D. E. Evans, Mr. D. J. de B. Lyon, Mr. W. W. Macdonald and Mr. H. A. Mould signed the Obligation Book and were admitted Fellows of the Society.

**The President** exhibited living larvae of *Miastor* (Diptera : Cecidomyiidae), taken under bark of fairly recently felled trees at Wytham, Berks. Larvae of *Miastor* are paedogenetic, and the larger specimens exhibited contained many smaller larvae. One specimen had been crushed to show developing larvae amongst the body contents.

**Mr. G. A. H. McClelland** reported the successful hybridization of a Malayan strain of the mosquito *Aedes aegypti* L. with the closely related *Aedes simpsoni* Theo. from Kenya, using an artificial mating technique. Four females and two males, with characters intermediate between the two parents, were obtained with *A. simpsoni* as the mother. No progeny were obtained from the few eggs laid in the reciprocal cross where copulation seemed abnormal. The crosses had been repeated without success using some other strains of *A. aegypti*.

**Mr. W. W. Macdonald** gave a paper on the ecology of mosquitoes in the tropical rain forest of Malaya, an abstract of which appeared on page 1.

The discussion which followed was opened by the President, who wondered what advantage its curious habit of begging food from the ant could be to the mosquito, when it would seem to have been equally easy to get it direct. Mr. Macdonald replied that, although the association between the genera was widespread, there was no satisfactory explanation. Mr. C. N. Hawkins suggested that food obtained in this way was partially digested, but Mr. Macdonald pointed out that the ant had fed so recently that this could have no significance. Dr. J. A. Reid mentioned that *Crematogaster* ants were known to attend scale insects and may be able to solicit food, whereas the mosquito could not.

Dr. C. G. Butler asked if there was any evidence that the mosquito stimulated the ant, to which Mr. Macdonald replied that its antennae usually vibrated vigorously and the ant was sometimes seen to hesitate when the mosquito approached.

Professor D. S. Bertram asked by which of the two holes the mosquito emerged from the bamboo. He also mentioned his own earlier work with *Aedes aegypti* and its ingenuity in squeezing through a very fine metal mesh. Mr. Macdonald replied that the adult entered through the small hole and the offspring emerged through the same hole. The large exit hole did not appear for about three months. Some mosquitoes were structurally adapted for squeezing through small holes.

**Dr. P. T. Haskell** gave a paper on stridulation and associated behaviour in certain beetles, an abstract of which appeared on pages 1 and 2.

The President asked where the stridulatory organ in the asparagus beetle (*Crioceris asparagi* (L.)) was located. Dr. Haskell replied that one part of the mechanism was on the end of the dorsal surface of the abdomen and the other part on the edge of the elytra. Dr. B. J. Selman referred to the presence of a row of setae pointing inwards on the end of the elytra in *Lilioceris lili* (Scopoli) ; although a similar structure was present in *Chrysomela* species, there was no record of any sound.

Dr. E. B. Britton said that Passalid beetles were always found in family groups in their natural habitat, which was under fallen logs in decayed wood, and it could well be that in these beetles the sound is used by the adults and larvae to keep them together. He mentioned the work of Ohaus, who claimed that, as the larvae of this family were dependent on the adults for food, it was essential for the family group to be kept together. The President suggested that in these beetles there might be a "hunger cry".

In reply to an enquiry as to whether the beetles' bodies touched the ground when stridulating, as had been observed in the honeybee, Dr. Haskell said it had not been possible to observe this.

Mr. D. Leston wondered why Dr. Haskell had not discussed sounds in the more usual intra-specific and extra-specific categories, rather than as sexual and sub-social. He



himself could not recognise in any insect a sub-social call with aggregation only as its object, and with no courtship element. Dr. Haskell replied that, because of the lack of data, the terms chosen as "labels" were at present largely a matter of opinion and convenience, and he realised that "sub-social" was open to different interpretations; he had used it where acoustic behaviour appeared not to contain any sexual component.

Mr. Leston asked if there was any indication that flight sounds had a biological significance in Coleoptera as they had in Diptera. The "screech beetle" appeared to make a defensive noise effective against predators, to which the President added that these beetles made a noise spontaneously. Dr. Haskell observed that beetle sounds may also be effective against spiders, even though some of the latter hunt by sight.

PAUL FREEMAN, *Honorary Secretary.*

#### ADDITIONS TO THE LIBRARY

##### *Presented*

- Annual Review of Entomology*. Vol. 6. 8vo. California: Annual Reviews Inc. 1961. [The Publishers.]
- Board of Agriculture*. Leaflets (Entomology) 1901-1903. 8vo. London. [Mr. R. S. George.]
- British Museum (Natural History). *Ruwenzori Expedition*, 1952. Vol. 1, No. 7, *Noctuidae*, by D. S. Fletcher. 8vo. London, 1961. [The Trustees of the British Museum.]
- Rudnick, A. *A revision of the mites of the family Spinturicidae (Acarina)*. [Univ. Calif. Publ. Ent. 17: 157-284, 1960.] [The Publishers.]
- Selander, R. B. *Bionomics, systematics and phylogeny of Lytta, a genus of blister beetles (Coleoptera, Meloidea)*. 8vo. University of Illinois Press, 1960. [Illinois Biological Monographs, No. 28.] [The Publishers.]
- The Shell Company of Hong Kong Limited, with notes and comments by Major J. C. S. Marsh, R.A. *Hong Kong butterflies*. 4to. Hong Kong, 1960. [Mr. I. Cox, C.B.E., Shell Petroleum Company Limited.]

##### *Purchased*

- Hanström, B., & others. *Eds. South African animal life*. Vol. 7. 8vo. Göteborg, Stockholm, Uppsala: Almqvist & Wiksell, 1960.
- Heinrich, G. H. *Synopsis of nearctic Ichneumoninae Stenopneusticae with particular reference to the northeastern region (Hymenoptera)*. Part I. [Canad. Ent. Suppl. 15, 1960.]
- Stichel, W. *Illustrierte Bestimmungstabellen der Wanzen*. II. Europa (Hemiptera-Heteroptera Europae). Vol. 4. Hft. 18. 8vo. Berlin-Hermsdorf, 1961.

In addition separates have been presented by the United States Department of Agriculture; Department of Entomology, University of Manitoba; Dr. S. R. Losciavo; Mr. R. S. George; Plant Pathology Laboratory Library, Harpenden; Dr. J. J. Steyn; Mr. R. H. Carcasson; Dr. H. C. Chiang; Department of Agriculture, Canada; Department of Zoology, Glasgow University; Professor M. Florkin; Commonwealth Institute of Entomology; Dr. W. Peters; Anti-Locust Research Centre; Dr. J. J. H. Szent-Ivany; Hope Department of Entomology, Oxford; Dr. D. S. MacLagan; Dr. W. M. Davies; Mr. A. T. Thompson, and Dr. W. F. Jepson.